

8.0 MITIGATION OPPORTUNITY ANALYSIS

Finding appropriate mitigation in the lower Keys for a project such as the proposed RSA improvement project presents several challenges. By far the greatest challenge is finding appropriate large parcels of property on which to perform mitigation. Available undeveloped upland properties are increasingly rare in the lower Keys and may command a premium price for acquisition. Many available parcels are also too small to incorporate all the mitigation required into one site, making acquisition of multiple, non-contiguous parcels necessary. In addition, many of the undeveloped upland parcels are vegetated with native tropical hardwood hammocks, a habitat type that is becoming threatened throughout the Keys due to development. Because of the rarity of tropical hardwood hammocks this study concentrated on identifying parcels with disturbed uplands that do not contain native plant communities. There are numerous opportunities to obtain wetland parcels for preservation, however regulatory agencies would accept this type of mitigation only after all available creation, restoration, and enhancement opportunities have been exhausted.

Another challenge is finding available mitigation in proximity to the project site. Generally, regulatory agencies consulted for this study prefer to have all impacts mitigated on-site. When mitigation is proposed at an off-site location, agencies may seek slightly higher ratios since the mitigation would benefit wetlands at sites other than where the impact occurs. Because of the intense development in the Key West area, approximately 24 percent of the total mitigation that is anticipated to be required for the project could be constructed within 2 miles of the project area. The majority of the mitigation opportunities identified by this study are between 14 and 39 miles from the project site.

In order to identify the amount of mitigation that can reasonably be assumed to be available for the RSA project, the identified potential mitigation sites have been ranked into groupings based upon their likelihood of availability for use, their size and site conditions, and the benefits obtained through their use in a mitigation program (see Table 8.1-1.)

Projects that have generally been ranked as a high potential for use include those under public ownership where acquisition of the project area is not anticipated. It should be noted that use of USFWS parcels have the support of local staff, however, these projects must receive final approval by the USFWS headquarters. Projects that have a moderate likelihood of availability include privately held parcels that have no known acquisition constraints or are under public ownership but have other constraints. Projects that have a low likelihood are mostly under private ownership and have potential land acquisition or other issues that may affect the ability to obtain the property for mitigation. Based on feedback from the SFWMD and ACOE, the Cow Key road removal and the North Boca Chica sites may have a low probability for acquisition because previous attempts by others to acquire the properties for mitigation purposes have not been successful. In addition to acquisition issues, the Habitat for Humanity site may have environmental constraints and liabilities that limit the utility of the site for mitigation purposes.

**TABLE 8.1-1
POTENTIAL MITIGATION SITE EVALUATION MATRIX**

Site Name	Ownership	Mitigation Acreage		Upland Quality	Wetland Quality	Benefits to Wetlands	Mitigation Credits	Acquisition Potential	Access	Probable Project Cost
		Creation	Enhancement*							
High Potential For Use										
Airport Property	Public	7.0	N/A	Low	High	High	High	N/A	Good	\$723,300
Western Big Pine Dredge Hole	Public	2.4	0.05	Low	Moderate	High	Moderate	N/A	Good	\$283,200
Key Deer Refuge Limestone Mine	Public	3.8	N/A	Low	Moderate	High	Moderate	N/A	Good	\$264,900
Ohio Key Mangrove Restoration	Public	4.1	N/A	Low	High	High	Moderate	N/A	Good	\$407,800
Key Deer Refuge Dredge Hole (Cudjoe)	Public	0.8	0.05	Low	High	Moderate	Low	N/A	Poor	\$86,800
Torch Keys Finger Fill Removal	Public	0.3	N/A	Low	Moderate	Moderate	Low	N/A	Good	\$24,600
Summerland Key Bridge Removal	Public	.08	.007	N/A	High	Moderate	Low	N/A	Fair	\$61,700
Totals		18.48	.107							\$1,852,300

**TABLE 8.1-1
POTENTIAL MITIGATION SITE EVALUATION MATRIX**

		Evaluation Criteria								
Site Name	Ownership	Mitigation Acreage		Upland Quality	Wetland Quality	Benefits to Wetlands	Mitigation Credits	Acquisition Potential	Access	Probable Project Cost
		Creation	Enhancement*							
Moderate Potential For Use										
City of Key West Property	Public	15.1	N/A	Low	High	High	High	N/A	Good	\$1,273,300
Cudjoe Key Limestone Mine	Private	8	1	Low	Low	High	High	Moderate	Good	\$1,798,900
Sugarloaf Loop Road Removal	Private	7.4	N/A	High	Moderate	High	High	Moderate	Fair	\$1,819,100
No Name Key Limerock Mine	Private	4.3	0.53	Low	Low	High	Moderate	High	Good	\$585,100
Key Deer Refuge Road Removal	Public	1.5	N/A	N/A	High	Moderate	Moderate	N/A	Good	\$165,000
Spain Boulevard Culverts	Public	0.4	2.3	N/A	Low	High	Low	N/A	Good	\$62,100
Cudjoe Key Canal Restoration	Private	0.7	0.05	Low	Moderate	Moderate	Low	Moderate	Good	\$198,300
Nature View Property Restoration	Private	1.5	N/A	Low	High	High	Moderate	Moderate	Good	\$421,400
Totals		38.9	3.88							\$6,323,200

**TABLE 8.1-1
POTENTIAL MITIGATION SITE EVALUATION MATRIX**

		Evaluation Criteria								
Site Name	Ownership	Mitigation Acreage		Upland Quality	Wetland Quality	Benefits to Wetlands	Mitigation Credits	Acquisition Potential	Access	Probable Project Cost
		Creation	Enhancement*							
Low Potential For Use										
Cow Key Road Removal	Private	5.6	N/A	N/A	Moderate	High	High	Low	Good	\$1,219,200
Habitat For Humanity Site	Private	5.2	N/A	Low	Moderate	High	High	Low	Fair	\$635,000
North Boca Chica Site	Private	40	15	Low	Low	High	High	Low	Fair	\$4,346,700
Totals		50.8	1.5							\$6,200,900

Notes:

* Acres listed under the enhancement column are equivalent to creation acres and are calculated by dividing available acres of enhancement at a mitigation site by a 10:1 enhancement ratio.

Sites are ranked in order of desirability within each grouping.

Project costs listed include acquisition.

Mitigation acreages are approximate.

As previously indicated, based on assumed wetland mitigation ratios approximately 77.8 acres of wetland creation credits will likely be needed to mitigate the proposed impacts. The analysis shows that there is a high potential for approximately 18.5 acres of creation credits that may be available for the proposed project. In addition, there is a moderate potential for approximately 42.8 acres of creation credits area that may be available. If combined, the total available acreages of the high and moderate potential projects represent approximately 79 percent (61.3 acres) of the total amount of projected mitigation needed as compensation for the construction of the standard RSA. Mitigation cost of the combined high and medium potential projects is approximately \$8,175,500.

The analysis shows that approximately 52.3 acres of wetland creation credit would be on properties with a low potential to be available for the proposed project. If all potential mitigation sites listed with a high and moderate potential for use were utilized for the proposed project, a balance of 16.4 additional creation credit acres would still be needed to satisfy the projected mitigation scenarios. Based on the available acreage of the sites with low potential for use, the acquisition of the North Boca Chica site would be crucial to meeting the projected mitigation requirements because the other two listed sites would not offer enough mitigation to satisfy the assumptions.

90 CONCLUSION

9.0 CONCLUSION

Based on consultation with the involved regulatory and commenting agencies and in URS' professional opinion, the probable mitigation required for the proposed standard RSA at KWIA is estimated to be 77.8 acres of wetland creation/restoration. This estimate allows for the identification of conceptual mitigation strategies and opportunities in the airport vicinity and the lower Keys. An evaluation of the conceptual mitigation projects identified in this study provides some early indication of benefits, issues, probability, and costs.

The environmental review process and eventual permit application process would result in detailed analyses of alternatives, habitat evaluation studies, and related studies that would provide a basis for final mitigation ratios. As such, the current study identifies the probable ratios, but it should be noted that the final approved mitigation ratios could vary.

The development of conceptual mitigation projects strives to maximize on-site mitigation. The limitations of available suitable land within the salt ponds require that additional mitigation be conducted off-site. As discussed, the nature of the physical environment and land development in the lower Keys results in several small mitigation projects over a large geographic area. The approach involves acquiring the needed parcels, or in the case of public lands, obtaining agreements to conduct the mitigation. Permitting for these small projects can be approached from an overall perspective; however, each conceptual project would need detailed mitigation and design plans.

The results of the study identified conceptual mitigation projects that collectively should satisfy anticipated mitigation requirements. However, some issues (i.e., land acquisition, environmental site conditions) could limit the land available to conduct the amount of mitigation that may be required. Other issues, such as potential cost, are a consideration to funding agencies and an opinion of the significance of the potential costs is not offered in this study.

A summary of the mitigation strategy, issues, and costs related to the proposed standard RSA is presented below:

Development of a Conceptual Mitigation Strategy

- The development of conceptual mitigation strategies first identified potential direct impacts to wetland resources at the airport resulting from the construction of the standard RSA. The impacts were discussed with regulatory and commenting agencies through a series of meetings and site visits to identify potential permit issues and probable mitigation requirements.
- A list of potential mitigation sites was prepared through the review of aerial photographs and maps. Coordination with local resource agency representatives and organizations was then conducted to identify additional potential mitigation opportunities. A field reconnaissance was also conducted to review accessible sites and identify additional sites.
- The list of potential mitigation projects was coordinated with regulatory and commenting agencies to further discuss issues and probable mitigation requirements. The result of this effort allowed URS to develop conceptual mitigation strategies and

probable mitigation costs for consideration by Monroe County and the Federal Aviation Administration.

RSA Project Impact Issues

- The RSA project would impact substantial mangrove community and open water habitat on Key West. Approximately 24.9 acres of wetlands will be impacted. Salt pond habitats are considered to be a unique resource on Key West.
- For the permit application process, the regulatory and commenting agencies will require a detailed analysis of alternatives that first avoid and then minimize impacts to the wetland habitats, including consideration of a No-Action alternative.
- The regulatory and commenting agencies indicated that cumulative and secondary impacts will likely be significant issues to be addressed during any subsequent NEPA environmental studies and permit application process.
- The RSA project and proposed mitigation will require the removal of the abandoned military bunker located west of the runway. This action will require approval from the State Historic Preservation Officer.
- Potential impacts to protected species, wildlife, Essential Fish Habitat, and migratory birds are of concern to the regulatory and commenting agencies.
- Potential impacts to water quality and hydrology in the salt ponds are of concern to the regulatory and commenting agencies.
- Federal participation in the proposed RSA project will require the preparation of an Environmental Assessment or an Environmental Impact Statement.

Mitigation Issues

- It is estimated that 77.8 acres of wetland creation/restoration may be required for the direct impacts of the proposed RSA project. Detailed habitat evaluations and related impact studies will provide the basis for final mitigation ratios, which could vary from the probable ratios developed for this study.
- The regulatory and commenting agencies are interested in maximizing on-site mitigation before considering off-site options. Physical constraints limit on-site opportunities. It has been determined that off-site mitigation is needed to satisfy probable mitigation requirements.
- Regulatory agencies may seek higher ratios for off-site mitigation than on-site mitigation.
- The development of a conceptual mitigation strategy found that a single site suitable to provide all of the projected mitigation is not available in the vicinity of the airport. The mitigation strategy involves a number of smaller projects located throughout the lower Keys.
- Ten mitigation sites on public land were identified. The land to the north of the airport where some mitigation is proposed is owned by the County but leased to the City of Key West. Other public-owned mitigation sites are under County or federal ownership. Agreements will be required for the County to conduct mitigation on the leased property and federal property.
- Eight mitigation sites are privately owned and would require acquisition.
- One potential mitigation site (the Habitat for Humanity site) has known environmental concerns. Additional investigation is needed to determine if the liability and costs for any hazardous material clean-up would be prohibitive.

- Eighteen sites with approximately 108 acres of wetland creation potential and 5.4 acres of wetland enhancement were identified. Mitigation on sites considered to have high and moderate potential for use would yield approximately 61.3 acres of mitigation credit toward the 77.8 acres estimated to be needed.
- Three sites considered to have low potential, primarily due to possible acquisition issues and environmental liability, would collectively have an additional 52.3 acres of wetland creation credit potential. The North Boca Chica site, with approximately 41.5 acres of potential mitigation, would provide the best option for providing additional mitigation. However, discussions with regulatory agencies indicate that this land has been considered on other mitigation projects, but acquisition issues were not resolved.

Probable Project Costs

- The total projected construction cost for the standard RSA at KWIA, including design and construction phase fees, is **\$9,161,200**.
- Land acquisition costs for the mitigation sites were developed from the Monroe County Property Appraiser's Office records, with a 30 percent increase added to the County's Just Valuation estimates. Detailed appraisals may indicate fair market values higher than estimated in this study. The acquisition costs include estimated incidental costs (i.e., appraisals, surveys, etc.) but not potential additional costs for negotiated settlements or potential imminent domain acquisitions.
- Mitigation cost estimates were based on conceptual excavation, clearing and grubbing, and re-vegetation requirements for each project. The costs include consideration of potential design, permitting and construction phase fees.
- The total projected cost of all the mitigation projects identified is **\$14,376,400**.
- The total projected cost of the RSA construction, land acquisition, and mitigation projects is **\$23,537,600**.

REFERENCES

- Federal Aviation Administration (FAA), 2002. *Airport Design*, Change 7, Advisory Circular 150/5300-13, Federal Aviation Administration, October 1, 2002.
- Federal Aviation Administration (FAA), 1985. *Airport Environmental Handbook*, Order 5050.4A, Federal Aviation Administration, October 8, 1985.
- Federal Aviation Administration (FAA), 1986. *Policies & Procedures for Considering Environmental Impacts*, Order 1050.1D Change 4, Federal Aviation Administration, December 5, 1986.
- Federal Aviation Administration (FAA), 1999. *Runway Safety Area Program*, Order 5200.8, Federal Aviation Administration, October 1, 1999.
- Federal Aviation Administration (FAA), 2003. *Terminal Area Forecast*.
- Federal Aviation Administration (FAA). Federal Aviation Regulations Part 139, *Certification and Operations: Land Airports Serving Certain Air Carriers*. 14 CFR Part 139.
- Florida Department of Transportation, 2002. *Aviation System Plan*.
- National Environmental Policy Act (NEPA) of 1969, as amended. 42 U.S.C. §4321 et seq. (1988)
- URS Corporation, 2003. *Key West International Airport Master Plan*, Draft, March 2003.

APPENDIX A

RUNWAY SAFETY AREA REQUIREMENTS

Chapter 3. RUNWAY DESIGN

300. INTRODUCTION. This chapter presents standards for runways and runway associated elements such as shoulders, blast pads, runway safety areas, obstacle free zones (OFZ), object free areas (OFA), clearways, and stopways. Tables 3-1, 3-2, and 3-3 present the standard widths and lengths for runway and runway associated elements. Also included are design standards and recommendations for rescue and firefighting access roads. At new airports, the RSA and ROFA lengths and the RPZ location standards are tied to runway ends. At existing constrained airports, these criteria may, on a case-by-case basis, be applied with respect to declared distances ends. See appendix 14.

301. RUNWAY LENGTH. AC 150/5325-4 and airplane flight manuals provide guidance on runway lengths for airport design, including declared distance lengths. The computer program cited in appendix 11 may be used to determine the recommended runway length for airport design.

302. RUNWAY WIDTH. Tables 3-1, 3-2, and 3-3 present runway width standards which consider operations conducted during reduced visibility.

303. RUNWAY SHOULDERS. Runway shoulders provide resistance to blast erosion and accommodate the passage of maintenance and emergency equipment and the occasional passage of an airplane veering from the runway. Tables 3-1, 3-2, and 3-3 present runway shoulder width standards. A natural surface, e.g., turf, normally reduces the possibility of soil erosion and engine ingestion of foreign objects. Soil with turf not suitable for this purpose requires a stabilized or low cost paved surface. Refer to chapter 8 for further discussion. Figure 3-1 depicts runway shoulders.

304. RUNWAY BLAST PAD. Runway blast pads provide blast erosion protection beyond runway ends. Tables 3-1, 3-2, and 3-3 contain the standard length and width for blast pads for takeoff operations requiring blast erosion control. Refer to chapter 8 for further discussion. Figure 3-1 depicts runway blast pads.

305. RUNWAY SAFETY AREA (RSA). The runway safety area is centered on the runway centerline. Tables 3-1, 3-2, and 3-3 present runway safety area dimensional standards. Figure 3-1 depicts the runway safety area. Appendix 8 discusses the runway safety area's evolution.

a. **Design Standards.** The runway safety area shall be:

(1) cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;

(2) drained by grading or storm sewers to prevent water accumulation;

(3) capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and

(4) free of objects, except for objects that need to be located in the runway safety area because of their function. Objects higher than 3 inches (7.6 cm) above grade should be constructed, to the extent practicable, on low impact resistant supports (frangible mounted structures) of the lowest practical height with the frangible point no higher than 3 inches (7.6 cm) above grade. Other objects, such as manholes, should be constructed at grade. In no case should their height exceed 3 inches (7.6 cm) above grade.

b. **Construction Standards.** Compaction of runway safety areas shall be to FAA specification P-152 found in AC 150/5370-10.

c. **Sub-standard RSAs.** RSA standards cannot be modified or waived like other airport design standards. The dimensional standards remain in effect regardless of the presence of natural or man-made objects or surface conditions that might create a hazard to aircraft that leave the runway surface. Facilities, including NAVAIDs, that would not normally be permitted in an RSA should not be installed inside the standard RSA dimensions even when the RSA does not meet standards in other respects. A continuous evaluation of all practicable alternatives for improving each sub-standard RSA is required until it meets all standards for grade, compaction, and object frangibility. FAA Order 5200.8, Runway Safety Area Program, explains the process for conducting this evaluation. Each FAA regional Airports division manager has a written determination of the best practicable alternative(s) for improving each RSA. Therefore, runway and RSA improvement projects must comply with the determination of the FAA regional Airports division manager.

Table 3-3. Runway design standards for aircraft approach categories C & D
(Refer also to Appendix 16 for the establishment of new approaches)

ITEM	DIM ¹	AIRPLANE DESIGN GROUP					
		I	II	III	IV	V	VI
Runway Length	A	- Refer to paragraph 301 -					
Runway Width	B	100 ft 30 m	100 ft 30 m	100 ft ² 30 m ²	150 ft 45 m	150 ft 45 m	200 ft 60 m
Runway Shoulder Width ³		10 ft 3 m	10 ft 3 m	20 ft ² 6 m ²	25 ft 7.5 m	35 ft 10.5 m	40 FT 12 M
Runway Blast Pad Width		120 ft 36 m	120 ft 36 m	140 ft ² 42 m ²	200 ft 60 m	220 ft 66 m	280 ft 84 m
Runway Blast Pad length		100 ft 30 m	150 ft 45 m	200 ft 60 m	200 ft 60 m	400 ft 120 m	400 ft 120 m
Runway Safety Area Width ⁴	C	500 ft 150 m	500 ft 150 m	500 ft 150 m	500 ft 150 m	500 ft 150 m	500 ft 150 m
Runway Safety Area Length Beyond RW End ⁵	P	1,000 ft 300 m	1,000 ft 300 m	1,000 ft 300 m	1,000 ft 300 m	1,000 ft 300 m	1,000 ft 300 m
Obstacle Free Zone Width and length		- Refer to paragraph 306 -					
Runway Object Free Area Width	Q	800 ft 240 m	800 ft 240 m	800 ft 240 m	800 ft 240 m	800 ft 240	800 ft 240
Runway Object Free Area Length Beyond RW End ⁵	R	1000 ft 300 m	1000 ft 300 m	1000 ft 300 m	1000 ft 300 m	1,000 ft 300 m	1000 ft 300

- 1/ Letters correspond to the dimensions on figures 2-1 and 2-3.
- 2/ For Airplane Design Group III serving airplanes with maximum certificated takeoff weight greater than 150,000 pounds (68 100 kg), the standard runway width is 150 feet (45 m), the shoulder width is 25 feet (7.5 m), and the runway blast pad width is 200 feet (60 m).
- 3/ Design Groups V and VI normally require stabilized or paved shoulder surfaces.
- 4/ For Airport Reference Code C-I and C-II, a runway safety area width of 400 feet (120 m) is permissible. For runways designed after 2/28/83 to serve Aircraft Approach Category D, the runway safety area width increases 20 feet (6 m) for each 1,000 feet (300 m) of airport elevation above MSL. Refer to paragraph 305.
- 5/ The runway safety area and runway object free area lengths begin at each runway end when stopway is not provided. When stopway is provided, these lengths begin at the stopway end.

Source:

Federal Aviation Administration (FAA), 2002. *Airport Design*, Change 7, Advisory Circular 150/5300-13, Federal Aviation Administration, October 1, 2002.

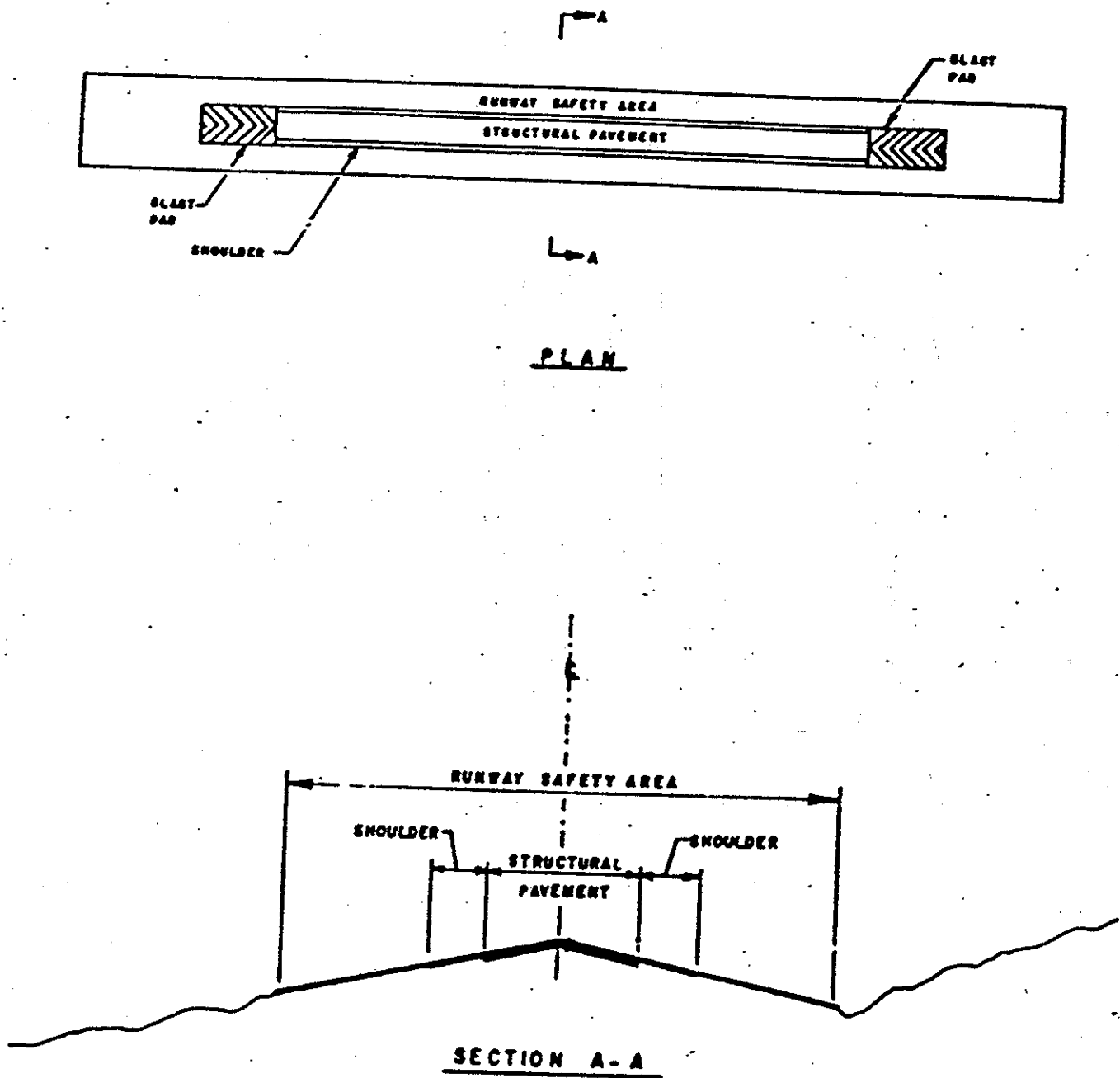


Figure 3-1. Runway safety area

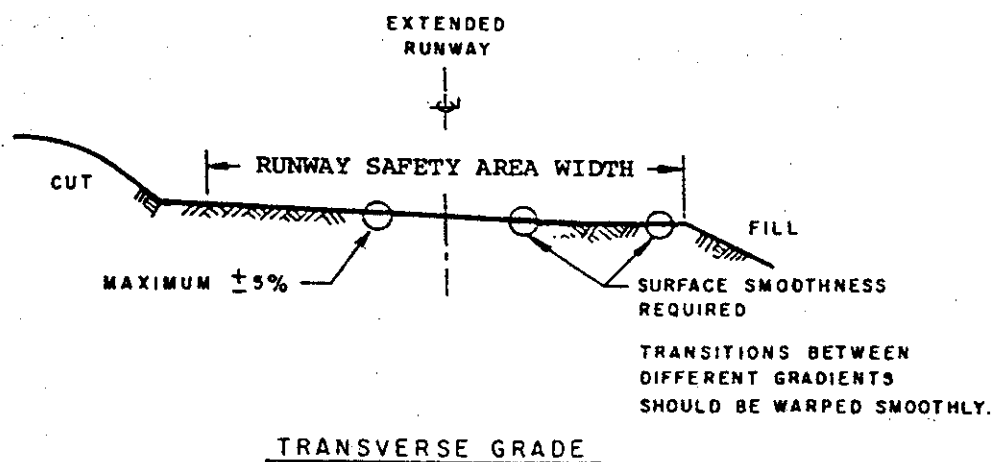
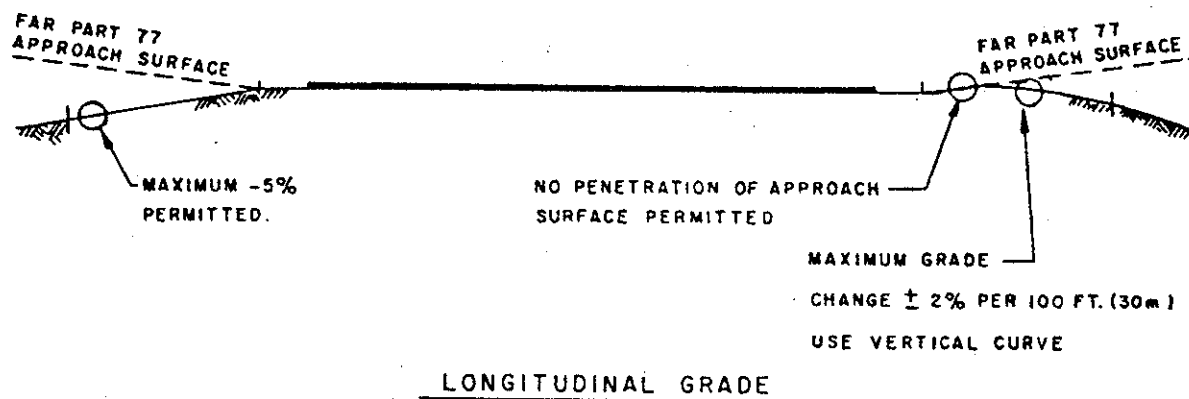


Figure 5-5. Runway safety area grade limitations beyond 200 feet (60 m) from the runway end

ORDER

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

5200.8

SUBJ: RUNWAY SAFETY AREA PROGRAM

1. PURPOSE.

This order establishes

- a. The Federal Aviation Administration's (FAA) Runway Safety Area (RSA) Program and
- b. The procedures that FAA employees will follow in implementing that program.

2. DISTRIBUTION.

This order is distributed to the division level in the Office of Airport Safety and Standards and the Office of Airport Planning and Programming; to the division level in the regional Flight Standards, Airway Facilities, and Air Traffic Divisions; to the branch level in the regional Airports Divisions; and a standard distribution to all Airport District Offices.

3. EFFECTIVE DATE. October 1, 1999

4. BACKGROUND.

The RSA is an integral part of the runway environment. RSA dimensions are established in AC 150/5300-13, *Airport Design* and are based on the Airport Reference Code (ARC). The RSA is intended to provide a measure of safety in the event of an aircraft's excursion from the runway by significantly reducing the extent of personal injury and aircraft damage during overruns, undershoots and veer-offs.

5. OBJECTIVE

The objective of the Runway Safety Area Program is that all RSAs at federally obligated airports and all RSAs at airports certificated under 14 Code of Federal regulations (CFR) part 139 shall conform to the standards contained in AC 150/5300-13 *Airport Design*, to the extent practicable.

6. RESPONSIBILITY AND DELEGATION OF AUTHORITY.

- a. The Regional Airports Division Manager ensures that the program is implemented in accordance with the procedures provided in this directive.
- b. The Regional Airports Division Manager approves all RSA determinations required by Paragraph 8.0 of this order. This authority may be delegated to the ADO Manager, only when it is determined practicable to obtain the RSA.

Dist: A-W(AS/AP)-2; A-X (FS/AF/AT)-2; A-X(AS)-3; A-FAS-0 (STD)

Initiated by AAS-310

7. RSA INVENTORY.

Each regional airports division shall collect and maintain data on the RSA for each runway at federally obligated airports and airports certificated under part 139 within their geographic purview. The data will include the current width of each RSA and the length that the RSA extends beyond each runway end. The data will also contain the standards that apply to each RSA at the airport. In addition, all objects within the area that comprises a standard RSA shall be documented. Appendix 1, Runway Safety Area Database, provides a format for this data collection.

8. RSA DETERMINATIONS.

a. Supporting Documentation. The region/ADO shall prepare documentation for each RSA. Appendix 2, Supporting Documentation for RSA Determinations, provides guidance that must be adhered to in preparing this documentation. The Regional Airports Division will decide the level of detail required for all planning, environmental, and engineering factors that are to be incorporated in analyzing the practicable alternatives. The objective is to assure that accurate and complete information supports the decision making process on RSA determinations.

(1) For an RSA that does not meet current standards, the Regional Airports Division Manager will make a determination as required in paragraph 8b, based on this documentation.

(2) Determinations are based on the best, current, available information. However, information that becomes available at a later date can effect changes or revisions to a determination and, as a result, updates the determination. For example, the final determination may depend on the outcome of an Environmental Assessment process. Until that outcome is known, a determination is made on the best, current, available information.

(3) Although for data collection purposes it is convenient to describe the RSA in terms of runway ends, the determination shall be made for the entire RSA, i.e., both runway ends as well as the full width.

b. Determination. The Regional Airports Division Manager shall review the data collected for each RSA in Paragraph 7, along with supporting documentation prepared by the region/ADO for that RSA, and make one of the following determinations:

(1) The existing RSA meets the current standards contained in AC 150/5300-13.

(2) The existing RSA does not meet standards but it is practicable to improve the RSA so that it will meet current standards.

(3) The existing RSA can be improved to enhance safety, but the RSA will still not meet current standards.

(4) The existing RSA does not meet current standards, and it is not practicable to improve the RSA.

c. Form of Determination. The RSA determination will be signed and dated by the Regional Airports Division Manager and kept on file along with the supporting documentation in the regional office or ADO. The determination and its date will also be included in the RSA database. See Appendix 1.

d. Revision to Determination. If new information becomes available, the Regional Airports Division Manager may issue a revised determination. The revised determination shall be in a form required by Paragraph 8(c) and supported by documentation required by Paragraph 8(a). The date of the revised determination shall be recorded in the RSA database.

9. TIMING OF DATA COLLECTION AND DETERMINATION.

The RSA inventory and RSA determinations specified in paragraph 7 and 8 will be completed in accordance with the following schedule:

- a. For runways used by air carriers at airports certificated under 14 CFR Part 139, the RSA inventory and determination will be completed by June 30, 2000.
- b. For all other runways at federally obligated airports, the RSA inventory and determination can be done at any time, but will normally be done during the master planning process. However, the inventory and determination must be completed prior to any project for runway construction, reconstruction, or significant expansion that involves Federal funds.

10. IMPLEMENTATION OF RSA IMPROVEMENTS.

- a. A project to improve an RSA in accordance with the determination made in Paragraph 8 may be initiated at any time.
- b. Whenever a project for a runway involves construction, reconstruction (includes overlays), or significant expansion, the project shall also provide for improving the RSA in accordance with the determination made in Paragraph 8. Reconstruction and significant expansion are construed as any project that results in changing the capability of the airport or the load-bearing strength of the pavement, restores the original design life of the pavement, or changes the actual or potential design aircraft use.
 - (1) The requirement to upgrade RSA under Paragraph 10b is applicable at part 139 airports regardless of the funding source for the runway project.
 - (2) The requirement to upgrade RSA under Paragraph 10b is applicable at federally obligated airport, if Federal or Passenger Facility Charge (PFC) funds are used for the project.

11. OVERSIGHT.

The Airport Office of Safety and Standards (AAS) is the office of primary interest. This office may selectively review RSA analyses or the entire program on a periodic basis to assure consistency. The office also provides consulting and guidance in judging the merits of a specific alternative.



David L. Bennett
Director of Airport Safety and Standards

10/01/99

5200.8
Appendix 1

Appendix 1. RUNWAY SAFETY AREA DATA BASE

A national data base that is accessible on the Intranet is being developed as part of this program. The following pages provide sample copies of the formats to be used for entering RSA information into this data base. The electronic version of this Appendix, along with accompanying instructions, is available on the FAA intranet and is to be used for transmitting the above information. As AAS-100 and AAS-300 gain experience in using the data that are collected through these forms, modifications and/or clarifications may be necessary. The latest version of this Appendix will always be found on the Intranet.

5200.8
Appendix 1
Runway Form

10/01/99

Locid: Airport: Region:
City/State: ADO:

Runway:

Runway Ends:

Length:

Actual RSA Length:

Width:

Actual RSA Width:

Part 139: ☐

RSA Grade (+/- 5%): ☐ ☐

Dimensional Uniformity: ☐ ☐

CRITICAL AIRCRAFT:

Approach Category:

Design Group:

Visibility Minimums:

RSA Determination

Currently Meets Standards ☐ ☐

Practicable to Meet Standards ☐ ☐

Can be Improved But Will Not Meet Standards ☐ ☐

Not Practicable to Improve ☐ ☐

Date of Determination (month/year):

PUBLISHED RUNWAY

SAFETY AREA STANDARDS:

Length:

Width:

Planned Improvements

RSA to Design Standards Obtainable: ☐ ☐

Runway Realignment or Relocation: ☐ ☐

Shift Runway From Present Alignment: ☐ ☐

Use Declared Distances: ☐ ☐

Use EMAS: ☐ ☐

Other: ☐ ☐

Scheduled Completion (year):

Remaining Costs:

Uniformity Comments:

Improvement Comments: